# Search Report from Ginger D. Roberts

| <pre>?show files;ds File 348:EUROPEAN PATENTS 1978-2002/Oct W01</pre>      |
|--|
| Set Items Description  |
| S1 134312 TRADE? OR TRADING OR BROKER? ?                                   |
| S2 274272 REMOTE(2W) (CLIENT? OR WORKSTATION? OR PC OR COMPUTER? ? OR      |
| DESKTOP? OR NODE?) OR NETWORK? OR LAN OR WAN OR INTERNET? OR - DISTRIBUTED |
| S3 88300 (USER? OR INDIVIDUAL? OR OFF()SITE? OR OFFSITE OR DATA OR -       |
| INFORMATION OR TRANSACTION?) (8N) (VIEW? OR MODIFY? OR MODIFI? -           |
| OR (CHANGE? OR CHANGING OR UPDATE?) () (DATA OR INFORMATION OR -           |
| TRANSACTION?))   |
| S4 424888 S2 OR HAND() HELD? OR HANDHELD? OR WIRELESS? OR PALM? OR MO-     |
| BILE OR PDA OR PERSONAL()DIGITAL()ASSISTANT? OR BLACKBERRY? OR             |
| BLACK() BERRY OR BLUETOOTH OR BLUE() TOOTH                                 |
| S5 618 S1(S)S3(S)S4  |
| S6 135809 SERVER? OR MAINFRAME? OR MAIN() FRAME? OR HOST OR CENTRAL() -    |
| (COMPUTER OR DATABASE?) OR MAIN()DATABASE? OR MAIN()DATA()BAS-             |
| E? OR WAREHOUSE?   |
| S7 337 S5(S)S6   |
| S8 56083 DATA() PROCESSING OR INFORMATION(2W) (TECHNOLOGY OR SYSTEM?)      |
| OR (TRADING OR TRANSACTION)(2W)SYSTEM?                                     |
| S9 36261 (BROKER? ? OR TRADER? ? OR SELLER? ? OR RECORDING) (6N) (TRA-     |
| NSACTION? ? OR INFORMATION OR DATA)  |
| S10 3707 (TRANSMIT? OR TRANSMISSION? OR SEND? OR ROUT? OR FORWARD?)-       |
| (6N)S9   |
| S11 11 S7(S)S10  |
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11/7/5 (Item 4 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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A SYSTEM AND METHOD FOR CONDUCTING SECURITIES TRANSACTIONS OVER A COMPUTER NETWORK

SYSTEME ET PROCEDE DE CONDUITE DE TRANSACTIONS DE VALEURS SUR UN RESEAU INFORMATIQUE

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200052619 A1 20000908 (WO 0052619)

Application: WO 2000US5150 20000229 (PCT/WO US0005150)

Priority Application: US 99122208 19990301; US 99292552 19990415; US 99292553 19990415

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-017/60

International Patent Class: G06F-017/00

Publication Language: English Filing Language: English Fulltext Word Count: 35999

#### English Abstract

The system and method of the preferred embodiment supports trading of securities over the Internet both on national exchanges and outside the national exchanges. In a preferred embodiment, users are subscribers to a securities trading service offered over the Internet. Preferably, each subscriber to this service is simultaneously connected from his own computer to a first system which provides user-to-user trading capabilities and to a second system which is a broker/dealer (42) system of his/her choice. The system providing the user-to-user trading services preferably includes a root server (50) and a hierarchical network of replicated servers supporting replicated databases. The user-to-user system provides real-time continuously updated stock information and facilitates user-to-user trades that have been approved by the broker/dealer systems with which it interacts.

#### French Abstract

Le systeme et procede du mode de realisation prefere de l'invention permet le commerce de valeurs sur l'Internet a la fois sur les marches locaux et etrangers. Dans ce mode de realisation, des utilisateurs sont abonnes a un service de transaction sur des valeurs, propose sur l'Internet. De preference, chaque abonne a ce service est connecte simultanement, a partir de son ordinateur, a un premier systeme offrant la possibilite de negocier entre utilisateurs et a un second systeme qui

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est un systeme de courtiers/operateurs (42) du choix de l'abonne. Le systeme offrant des services de transactions entre utilisateurs comprend, de preference, un serveur (50) a programmes residant en memoire et un reseau hierarchique de serveurs dupliques supportant des bases de donnees dupliquees. Le systeme entre utilisateurs fournit des informations en temps reel sur le marche, mises a jour de facon continue, et facilite les echanges qui ont ete approuves par les systemes courtiers/operateurs avec lesquels il interagit.

Legal Status (Type, Date, Text)

Publication 20000908 A1 With international search report.

Examination 20001123 Request for preliminary examination prior to end of 19th month from priority date

### Claim

I A computer system supportincr user-to-user computer tradina of securities by

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users communicating from user devices over a first network with the system, comprising: a root server supporting a master database comprising stored data representing offers to buy and offers to sell securities provided by the users of the system, the server includes software that updates the master database based on the offers to buy and the offers to sell securities provided by the users; and

replica servers communicatin with the root server over a second network and

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- I 0 with computer devices of the users over the first network wherein each of the replica servers includes:
- a) essentially a copy of the master database;
- b) software for communicating data to a user device, including software for communicating in essentially real-time updates to the offers to buy and the offers to sell 15 stored for a security without receiving a request from the user for each new update; C) software for receiving data representing a user's offer to buy or sell a security from the user device;
- d) software for transmitting the data representing the user's offer to the

root server; and

- e) software for updating the master database in response to the received user's offer.
- 2 The system of claim I further comprising software for updating essentially a copy of the master database at one of the replica servers. 71
- . The system of claim 2 wherein the software for updating the copy comprises software for receiving the offer from the root server and updating the database oil the basis of

the user's offer.

- 4 The system of claim I further comprising a load balancer which monitors the replica servers and connects a new user to one of the replicated servers such that there is a substantial uniform load on the replica servers.
- 5 The system of claim I further comprising software for providing 1)
- 10 communicationbetweentherootsenierandabroker/dealersystemoftheuser.
- 6 The system of claim I wherein the servers are arranged hierarchically so that the root server is connected to a plurality of intermediate servers at a first level of hierarchy and each of the intermediate

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servers at the first level of hierarchy are connected to the 15 plurality of replica servers at a second level of hierarchy.

7 A method for facilitating delivery of real-time information relating to a security to a user communicating from a user workstation with a computer system

comprising:

receiving updated security infori-nation at a root server; updating a master database of the root-server in accordance with the updated

security infori-nation;

communicatina the updated security information to a plurality of replica

servers;

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updating essentially copies of the master database stored at the plurality of the replica servers in accordance with the updated security infori-nation; and transmittincy fron-i one of the replica servers to the Nvorkstation of the user information for one or more securities requested by the workstation of the user including the 5 updated security information.

- 8 The method of claim 7 wherein the user workstation communicates with one of the replica servers over the Internet. I 0 9. The method of claim 8 further comprising establishing a communication between the user workstation and a load balancer of the system
- 10 A method of trading securities on a user-to-user trading system comprising: (a) electrically receiving over a network a request from a first user to view
- 15 offers to purchase and offers to sell a first security;
- (b) electronically transmitting over the network to the first user data representing the offers to purchase and the offers to sell the first securities made by some of

the users of the system;

- (c) electronically updating the data representing the offers to purchase and 20 the offers to sell the first security in response to a new offer to purchase or a new offer to sell the first security received over the network, and transmitting the updated data to the first user, without receivine, a request for updated data from the first user; and (d) electronically receiving an acceptance of one of the offers to sell from the first user and in, response, electronically updating the data representing the offers to sell.
- . The method of claim IO further comprisincy storin2 the data representing the offers to sell and the offers to purchase at a plurality of replica servers connected by a network to the root server.
- 12 The method of claim I I wherein the step (c) of electronically updating further comprises:
- (a) electronically receiving the new offer from a second user at a replica

server to which the second user is connected;

- (b) electronically providing the new offer from the replica server to the IO root server;
- (c) electronically updating the master database stored at the root server based on the new offer;
- (d) electronically providing the new offer to the replica servers; and
- (e) updating databases stored at the replica servers based on the new offer.

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13 The method of claim IO further including receiving a request from a second user to negotiate purchase price of the first securities offered by the third user and electronically establishing a negotiation between the second and the third users.

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- 14 A computer program for providing a computer interface which facilitates security trading by a user communicating over a network with at least one computer system, the interface comprising simultaneously displayed non-overlapping computer displays which include: (a) a computer display of user's current security positions, (b) a computer display of an open order list of the user, (c) a computer display of a trade ticket, (d) a computer display
- of a watch list of securities wherein a price of at least one of the securities displayed in the watch list is automatically updated without the user requesting each update.
- 1 5. The program of claim 14 further providing a computer display of offers to buy and offers to sell the securities.
- 16 A computer method of providing a computer interface which facilitates electronic security trading by a user communicating over a network with at least one computer system, comprising: (a) graphically displaying bid, ask, and spread for a security III active trading in a first market; and (b) simultaneously graphically displaying a trade for the security in a second market in such a manner that a value of the trade in the second market can be readily visually compared with the bid, ask, and spread in the first market.
- 17 The method of claim 16 further comprising displaying an alphanumeric summary of the user's average price of the security and the user's current profit or loss for the security based on the current price of the security.
- 18 A method of presenting information about market conditions to a user at a user displaying numerical infori-nation representing detailed trading data for a security in a first market;
- displaying a sui-fimary graphical display representing summary trading inforn-iation for the security in the first market; and
- displaNrincy guraphical information on the summary displaV representing position of the security in a second market.
- 19 The method of claim IS further comprising graphically displa ing data O Yi
- 5 representing user's holdings of the security on the summary display.  $\mbox{"D}$
- 20 The method of claim 19 further comprising displaying user's P&L in the ID security.
- 21 A method of claim IS further comprising updating the trading data for the security in real-time without a user requesting updates.

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